11. The sharpness of textural transition zones suggests that well-defined dispersal pathways do not exist. A reasonable hypothesis is that net advection of sediment is limited to the very fine particles which are transported to the deep basin and the very coarse particles (medium sands) which are transported through the inlets and accumulate as flood tidal deltas. In terms of sediment volume, most material undergoes little net transport and is responding to slow basin- to global-scale processes such as sea level rise and barrier island migration.

12. Locally, short-term deposition rates of fine-grained sediments may be quite high. Soft, gel-like fluid muds which are often an indication of rapid sedimentation, are present in the estuarine reaches of the Pamlico and Neuse Rivers and in Albemarle Sound. However, except for these localized regions of fluid mud accumulation, sedimentation processes in the APES area are occurring too slowly to ever fill the basins. Order-of-magnitude calculations indicate that, even when assuming a very modest sea level rise of only of 1 mm/yr, the APES basins will never reach a sediment-filled state, unless river input changes drastically or the input from other sources exceeds river input by 6 times.